

PHP: Cookies, Sessions, Databases

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Outline

- How cookies work
- Cookies in PHP
- Sessions
- Databases

Cookies

- Sometimes it is useful to remember a client when it comes back.
To do this one can use the HTTP-Cookie protocol.
The Server can send as one of its response headers:
Set-Cookie: name=value; expires=some date; path= some path; domain= some_domain;
- In PHP you can write out a header using the header() function.
- When the Client comes back, it will send the cookie as part of its request header as:
Cookie: name=value

Cookies in PHP

- Cookies can be set using the `setcookie` function:
`setcookie(name, value, expires);`
- This should be done before output is produced by your script.
- To access the value of a cookie returned from a browser you can use the `$_COOKIE` array.

Sessions

- PHP supports session management.
- To start a session one calls `session_start()`;
- Then to set/get values of the session one uses the global array variable `$_SESSION`:
`$_SESSION["test"]=37; /* sets the test session variable*/`
`echo $_SESSION["test"];`

Database Management Systems and Databases

- For our purposes a database management systems (DBMS), is used to manage a collection of databases.
- That is, it manages how the data is stored in each database, and who can access it when.
- A given database consists of a collection of tables.
- Each table has a type for each of its columns and then has rows of data where the data values match the values of the column types.
- Example: Might have a table `car(make VARCHAR(10), model VARCHAR(10), year DATE)`. A possible row could be ('Toyota', 'Corolla', '1970-01-01').

MySQL Databases

- To manage MySQL databases you need to know how to:
 - Create and manage users
 - Create new databases and tables
 - Do lots of other stuff I won't talk about
- Many of these operations can be done using phpMyAdmin.
- Alternatively, you can use the command line.

MySQL Command Line

- I will assume you have set your path so that you can directly run `mysqladmin` and `mysql`.
- To set the root password you can go to the command prompt and type:
`mysqladmin -uroot password what_password_is`
- You can get a `mysql` shell by then typing:
`mysql -uroot -pwhat_password_is`
- To see what databases are available you can use the command:
`show databases;`
- To use a particular database type:
`use dbname;`
- To see what tables the currently use database has type:
`show tables;`
- To add a new user you can type at the prompt:
`GRANT SELECT, INSERT, UPDATE, DELETE, LOCK TABLES on dbname.* TO username@127.0.0.1
IDENTIFIED BY 'password';`
- To quit `mysql` type `\q` or `quit`. For help type `\h` or `help`.
- To login using this new user type at the command prompt:
`mysql -uusername -ppassword`

Basic SQL

- SQL (Structured Query Language) is the most common language for issuing commands to a database.
- These commands can usually be given either from the mysql prompt or from within a PHP transaction that is connecting to the database.

Database, Table Creation Deletion

- To create a database one uses the CREATE DATABASE command:
`CREATE DATABASE my_nifty_db;`
- Then one can type use my_nifty_db; to use this database.
- To create a table in the currently used database one can use a command like:
`CREATE TABLE customer (
 cust_id int(5) NOT NULL,
 name VARCHAR(50),
 title CHAR(3),
 PRIMARY KEY(cust_id)
)`
- To delete a table type:
`DROP TABLE customer;`
To delete a database
`DROP DATABASE my_nifty_db;`

SQL Query

- Some basic SQL commands are:
select col1, col2, col3
from table1, table2, table 3
where condition_holds;
- Returns rows consisting of given columns of tables such that the given condition holds. For example,
select FNAME, LNAME
from EMPLOYEE
Where SALARY > 10000;

SQL Insert, Delete, Update

- You can insert a row into table one uses a command like:

```
INSERT INTO table_name VALUES ('col1_value',  
    'col2_value', 'col3_value');
```

- To delete a set of rows from a table you can use a command like:

```
DELETE FROM table_name WHERE cond;
```

- To update a set of rows you can use a command like:

```
UPDATE table_name SET column='value' WHERE cond;
```

Connecting to MySQL from PHP

- To start a connect to a MySQL database one can issue the command:
`$db = mysql_connect();`
- This function actually takes three parameters: the host, the username, and the password.
- These default to localhost, the process name PHP runs under, and blank.
`$db = mysql_connect(host, uname, pword);`
- Depending on how mysql is configured, the first example above might work and saves some typing.
- This function returns false if a connection is not made.
- To close a database, one can call `mysql_close();`

Selecting a Database and queries

- To select a database one calls:
`mysql_select_db("cars");`
- One can then do a query with a command like:
`$query = "SELECT * FROM Corvettes";`
`$result = mysql_query($query);`
`$num_rows = mysql_num_rows($result);`
`$num_fields = mysql_num_fields($result);`
`for($j = 1; $j <= $num_rows; $j++)`
`{`
`$row = mysql_fetch_array($result);`
`print $row[0].$row["some_attr"]. "
";`
`}`
- `mysql_query` can also be used to do inserts, etc.

